



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,245	11/04/2003	Yong-Jun Kwak	678-1299 (P10931)	6089
28249	7590	07/27/2005	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			FIGUEROA, MARISOL	
			ART UNIT	PAPER NUMBER
			2681	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/701,245

Applicant(s)

KWAK ET AL.

Examiner

Marisol Figueroa

Art Unit

2681

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 2, 7, and 8** are rejected under 35 U.S.C. 102(e) as being anticipated by **Jain et al.** U.S. Publication No. 2002/0193118 A1.

**Regarding claim 1**, Jain discloses a method of determining a target noise rise over thermal noise (ROT) for a target cell in a radio network controller (RNC) in a CDMA (Code Division Multiple Access) mobile communication system (P.0038, lines 1-5, 7-11; P.0021, lines 18-21; the access network, e.g. base station in communication with a base station controller and plurality of access terminals, determines a target ROT (TH\_OUTERLOOP)) where ROTs in cells measured by each of a plurality of Node Bs within a coverage area of the RNC are maintained equal to or less than target ROTs for the cells (P.0038, lines 11-16; P.0039, lines 1-5; P.0040, lines 14-19; the outerloop threshold (target ROT) is used to correct the available capacity, e.g. maintain measured ROT within a predetermined level, due to interference from neighboring cells), the method comprising the steps of:

receiving a measurement ROT for the target cell from a Node B that controls the target cell (P.0038, lines 10-16);

adjusting a target ROT for the target cell according to a relation between the measurement ROT and the target ROT for the target cell (P.0039, lines 1-10); and

transmitting the adjusted target ROT to the Node B (P.0040, lines 14-19; P.0051; the adjusted threshold (TH\_OUTERLOOP) is applied by the congestion control unit of the base station to correct a cell's available capacity).

**Regarding claim 2**, Jain discloses the method of claim 1, wherein the measurement ROT in the target cell is received periodically (P.0037, lines 1-5; P.0038, lines 10-15).

**Regarding claim 7**, Jain discloses an apparatus for determining a target noise rise over thermal noise (ROT) for a target cell in a CDMA (Code Division Multiple Access) mobile communication system where ROTs in cells measured by each of a plurality of Node Bs are maintained equal to or less than target ROTs for the cells, the apparatus comprising:

a Node B for measuring ROTs in the target cell and cells neighboring the target cell within a coverage area of the Node B (P.0037, lines 1-2; P.0030, lines 1-9; the access network determines the congestion information or level, e.g. ROT), transmitting the ROTs (P.0038, lines 11-12; the access network measures the ROT), and updating the target ROT for the target cell to an adjusted target ROT (P.0038, lines 1-3, 7-18; P.0039, lines 1-10; the TH\_OUTERLOOP (target ROT) is adjusted by comparing it with the measured metric (measured ROT); and

a radio network controller (RNC) for receiving the ROTs, adjusting the target ROT for the target cell according to a relation between the ROTs and preset target ROT for the target cell, and transmitting the adjusted target ROT to the Node B (P.0032, lines 1-5; P.0038; P.0039; P.0040, lines 14-19; the process of adjusting the TH\_OUTERLOOP (target ROT) for congestion control in a cell is performed in an access network such as a Base Station or Base Station Controller).

**Regarding claim 8**, Jain discloses the apparatus of claim 7, wherein the Node B transmits

Art Unit: 2681

the ROTs periodically to the RNC (P.0037, lines 1-5; P.0038, lines 10-15).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 3, 4, 9, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jain** in view of **Choi U.S. Patent No. 6,295,452 B1**.

**Regarding claim 3**, Jain discloses the method of claim 1, but fails to disclose wherein the measurement ROT in the target cell is received when the measurement ROT is one of less than and greater than the target ROT by a predetermined threshold. Choi teaches a method for soft handoff in where a mobile station periodically measures the strength of the pilot signal from current and candidate base stations and compare the signals to a preset threshold, if the pilot strength from a candidate base station is greater than a threshold value, the mobile station transmits the measurements results to its base station (col.2, lines 40-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to receive the measurement ROT when is less or greater than a predetermined threshold in order to receive only the necessary measurements to adjust the target ROT according to them.

**Regarding claim 4**, Jain discloses the method of claim 1, wherein the measurement ROT in the target cell is received periodically (P.0037, lines 1-5; P.0038, lines 10-15), but fails to disclose that measurements are received when the measurement ROT is one of less than and greater than the

Art Unit: 2681

target ROT by a predetermined threshold. Choi teaches a method for soft handoff in where a mobile station periodically measures the strength of the pilot signal from current and candidate base stations and compare the signals to a preset threshold, if the pilot strength from a candidate base station is greater than a threshold value, the mobile station transmits the measurements results to its base station (col.2, lines 40-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to receive the measurement ROT when is less or greater than a predetermined threshold in order to receive only the necessary measurements to adjust the target ROT according to them.

**Regarding claim 9,** Jain discloses the apparatus of claim 7, but fails to disclose wherein the Node B transmits the ROTs to the RNC if the ROTs are one of less than and greater than the target ROTs by a predetermined threshold Choi teaches a method for soft handoff in where a mobile station periodically measures the strength of the pilot signal from current and candidate base stations and compare the signals to a preset threshold, if the pilot strength from a candidate base station is greater than a threshold value, the mobile station transmits the measurements results to its base station (col.2, lines 40-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to receive the measurement ROT when is less or greater than a predetermined threshold in order to receive only the necessary measurements to adjust the target ROT according to them.

**Regarding claim 10,** Jain discloses the apparatus of claim 7, but fails to disclose wherein the Node B transmits the ROTs to the RNC periodically, and when the ROTs are one less than and greater than the target ROT by a predetermined threshold. Choi teaches a method for soft handoff in where a mobile station periodically measures the strength of the pilot signal from current and candidate base stations and compare the signals to a preset threshold, if the pilot strength from a

Art Unit: 2681

candidate base station is greater than a threshold value, the mobile station transmits the measurements results to its base station (col.2, lines 40-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to receive the measurement ROT when is less or greater than a predetermined threshold in order to receive only the necessary measurements to adjust the target ROT according to them.

**Claims 5 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jain** in view of **Einola et al. U.S. Publication No. 2005/0009518 A1**.

**Regarding claim 5**, Jain discloses the method of claim 1, wherein the measurement ROT is received from the Node B and the adjusted target ROT is transmitted to the Node B using Node B application part signaling messages. Einola teaches that in radio access networks such as UTRAN comprising of a set of Base Stations and Radio Network controllers communicate with each other using signaling messages (P.0005, lines 22-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to transmit the adjusted ROT using signaling messages since is commonly well known that in radio access networks, communication between Base Stations, Radio Network Controllers and MSC is made by signaling messages.

**Regarding claim 11**, Jain discloses the apparatus of 7, wherein the Node B transmits the ROTs to the RNC and the RNC transmits the adjusted target ROT to the Node B using Node B application part signaling messages. Einola teaches that in radio access networks such as UTRAN comprising of a set of Base Stations and Radio Network controllers communicate with each other using signaling messages (P.0005, lines 22-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to transmit the adjusted ROT using signaling messages since is commonly well known that in radio access networks, communication between Base Stations, Radio Network Controllers and MSC is made by signaling messages.

**Claims 6 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jain** in view of **Kim et al. U.S. Publication No. 2002/0141349 A1**.

**Regarding claim 6**, Jain discloses the method of claim 1, but fails to disclose wherein if the measurement ROT is maintained less than the target ROT in the target cell for a predetermined time, the RNC decreases the target ROT, and if the measurement ROT is maintained equal to or greater than the target ROT in the target cell for the predetermined time, the RNC increases the target ROT. Kim teaches that is typically of a communication system to maintain a ROT near a predetermined value for the transmission in a reverse link to be stable (P.0045). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to decrease the target ROT if the measured ROT is less than the target ROT and increase the target ROT if the measured ROT is greater than the target ROT, in order to make adjustments to the target ROT that guarantees a stable communication system, since a stable system is guaranteed when the actual values of ROT in a cell are maintained near a predetermined threshold level.

**Regarding claim 12**, Jain discloses the apparatus of claim 7, but fails to disclose wherein if the ROT is maintained less than the target ROT in the target cell for a predetermined time, the RNC decreases the target ROT, and if the ROT is maintained equal to or greater than the target ROT in the target cell for the predetermined time, the RNC increases the target ROT. Kim teaches that is typically of a communication system to maintain a ROT near a predetermined value for the transmission in a reverse link to be stable (P.0045). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to decrease the target ROT if the measured ROT is less than the target ROT and increase the target ROT if the measured ROT is greater than the target ROT, in order to make adjustments to the target ROT that guarantees a



Art Unit: 2681

stable communication system, since an stable system is guarantee when the actual values of ROT in a cell are maintained near a predetermined threshold level.

***Conclusion***

Any response to this Office Action should be **faxed to (703) 872-9306 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

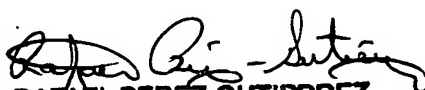
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Marisol Figueroa

  
RAFAEL PEREZ-GUTIERREZ  
PATENT EXAMINER  
7/25/05